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Post–Boston Incident: A PHMSA Enterprise Opportunity for Continuous Improvement

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The natural gas utility fires and explosions that occurred 25 miles north of Boston on September 13, 2018, are tragic and perhaps unprecedented. While preliminary investigative reports indicate over-pressurized gas lines as the cause of the disaster, further examination by the National Transportation Safety Board, the Pipeline and Hazardous Materials Safety Administration (PHMSA), and other authorities will determine the root cause and contributing factors. Although PHMSA has delegated its authority for the regulation of intrastate pipeline facilities to the Massachusetts Department of Public Utilities, PHMSA is ultimately responsible for issuing and enforcing minimum safety regulations for interstate and intrastate pipelines. From an administrative perspective, is there a more systematic method of oversight that will better assess organizational and operational hazards and risk, and place the agency at the forefront of operational excellence? The Boston event reveals tangential opportunities for PHMSA to reassess and remodel strategic enterprise operations that ensure continuous improvement and sustainability in business practices, regulation review and development, collaboration across the agency, and transparency through President Donald Trump's administration and every administration moving forward. Irrespective of who is in office, PHMSA's core mission remains constant—safety.

An agency under the U.S. Department of Transportation (DOT), PHMSA has the jurisdiction over the safe transportation of hazardous materials and energy products in all modes of transport, including pipelines. PHMSA executes its mission through two primary safety programs: the Office of Pipeline Safety (OPS) and the Office of Hazardous Materials Safety (OHMS). While each program office has distinct statutory authorities and two separate budgets, there are natural intersections in the day-to-day operations as well as priorities and initiatives originating from the White House, the Secretary of Transportation, Congress, and other key entities. This divergence can trigger gaps in communication, distinct and conflicting initiatives, and uncoordinated and separate policies and processes for rulemaking; regulatory review; employee training; research and development; outreach and engagement; grant solicitation and funding; data collection, analysis, and maintenance; and how the agency responds to audits from external parties.

An incident such as the one that occurred outside of Boston may catalyze PHMSA to reconfigure the agency-wide accident investigation resourcing and processes, something the new administrator, Howard "Skip" Elliott, has been working toward since taking office. In fact, nearly every prior administrator has attempted this unsuccessfully. Shortly after the administrator was sworn in, he unveiled his vision and priorities. Among the changes

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was restructuring and unifying the accident investigation process in which each program office (OHMS and OPS) would leverage each other's resources and expertise—a one-PHMSA approach that is diametrically opposed to the segregated pathways of the current program. Presently, each program has a dedicated accident investigation team and separate processes, which theoretically is reasonable as hazmat and pipeline safety retain their own statutory authorities and are separately funded. However, this fundamental separation in authorities and budget between OHMS and OPS has inevitably led to disparate operational management, business practices, and policies across PHMSA.

For OHMS, accident investigation is essentially collateral duty in each of the five U.S. regional offices. Some field offices may have their own separately created process, but there is no single, OHMS-wide standardized operating procedure (SOP) across the field offices for how and when to respond; how to coordinate and communicate within PHMSA and with other federal and state agencies; what data to collect; how to curate and maintain data; how to systematically evaluate data for trend analysis and forecasting; how to communicate data; or who is ultimately responsible for overall collection, analysis, and tracking on behalf of OHMS headquarters and field offices. Conversely, OPS has a dedicated accident investigation team in their field operations group. Perhaps a one-PHMSA approach would help foster unity and collaboration in the areas where it makes sense to administratively coordinate, such as training capacity, proficiency building, agency process development, and shared services. Despite safety being the common denominator between OHMS and OPS, the most significant undertaking will be metamorphosing the segregated business culture that has been historically embedded in the agency from the top-down.

The singular vision and mission of PHMSA represents both program offices (after all, it is one agency), thus natural synergies and alliances exist between enterprise priorities, agency-wide resources, and organizational functionalities. The need to create and maintain governance uniformity is critical when attempting to carry out one mission and a shared vision across both program offices. When processes are not coordinated, consistent, documented, current, or transparent up, down, and across the organization, it renders internal communications, executive notifications, and reporting convoluted and difficult to navigate, especially during the initial stages of an incident or other significant event. This puts the agency at risk, particularly during time-sensitive emergencies when well-organized, expedited action and reliable and current information are critical for reporting up the chain of command and to the public. This process deficiency also diminishes the effectiveness and efficiency of training and onboarding new employees.

Surprisingly, the accident investigation program is not an anomaly. Many processes within PHMSA are not standardized or documented, and those that are lack a centrally located common repository, as noted in separate audits by the Office of Inspector General,[1] DOT's oversight division that investigates the performance and integrity of the agency, and the Government Accountability Office,[2] an independent, nonpartisan agency that investigates how the federal government spends taxpayer dollars on behalf of Congress. Within OHMS, voluntary efforts have recently been made in the data operations division to establish a quality management system (QMS) that will situate the office on a path to achieving continuous organizational improvement, comprising elements such as business metrics and documented SOPs.[3] But this effort is nascent for OHMS, the concept is not fully embraced throughout the agency, and it lacks consistently dedicated funding to sustain the initiative. Historically, the entire agency has had challenges instituting QMS principles at the employee, program, and organization levels. It is impossible to evaluate performance and gauge whether or not a program or agency is meeting targets if baselines are not established and relevant quantifiable metrics and key performance indicators are not identified—you can't improve what you don't measure. This fundamental gap and the glaring lack of

SOPs are the most striking weaknesses of PHMSA. Not requiring SOPs or instituting a performance management system that focuses on the performance of the organization, programs, and employees inhibits the agency from truly becoming a proactive, innovative, and data-driven organization, something they have been striving to achieve for years, as noted in the current and prior strategic plans.

The previous administration attempted to implement a number of changes to its organizational structure to improve business operations and accountability but fell short on execution. One of those changes was establishing a nonpolitical career executive director and amalgamating that position with the role of chief safety officer (CSO), formerly a standalone career executive position. A CSO is a significant position that has extensive responsibility to create safety policies, ensure implementation, research and analyze all departments/divisions to confirm alignment with agency safety policies, and ensure that each faction within the organization is meeting its safety targets by holding those program offices accountable. Safety-related data tend to reside within different groups, in this case between OHMS and OPS. Each office has different priorities, goals, and milestones and reports data to the administrator through separate associate administrators. A CSO should have the dedicated authority to ensure timely, accurate, and company-wide safety reporting that bridges functional and corporate silos to discover and address safety issues long before incidents occur. The CSO role should have independent "global" responsibilities and act as the sole point of contact within PHMSA, as adverse events are not limited by program offices, particularly if the vision is attaining a one-PHMSA framework and the core mission is safety. Thus, to maximize safety outcomes, this role would be best served as a standalone, full-time career position, not one that is camouflaged and diluted with the duties of an executive director whose all-encompassing job is laden with oversight in executive notification reports, operational planning and management, human resources, legal matters, financial planning, community relations, and overseeing consistency and continuity of business operations during administration transitions.

Another modification the prior administration instituted was the establishment of a new crosscutting office, the Office of Planning and Analytics (OPA), to improve enterprise strategic planning and performance, develop a data-driven regulatory agenda, enhance market intelligence and data analysis, and drive consistency in how PHMSA collects and uses data. However, when this office was approved by Congress and established by the last administration, job descriptions delineating roles and responsibilities were not created, leaving new hires without clear direction, duties, or boundaries. Much of the work was duplicative and redundant of current programmatic functions, which failed to assess the overarching picture, focusing chiefly on program operations as opposed to a corporate perspective. This approach is contradictory to the principles of public service and out of step with the Trump administration's desire to reduce bureaucracy and eliminate redundancy within the federal government. From a practical perspective, having a singular sector within the agency that has chief responsibility for agency-wide strategic performance, planning, and prioritization; data, strategy, and analytics; and organizational economic research and forecasting is incredibly valuable. However, without an initial needs assessment and implementation and communication plan, execution will be fragmented and buy-in challenging to achieve.

Although there have been noticeable improvements overseeing and instituting a unified agency regulatory reform agenda consistent with President Trump's Executive Order 13777 on "Enforcing the Regulatory Reform Agenda,"[4] complications remain in defining the scope and ownership within OPA and how this new office intersects with and coordinates and compliments OHMS and OPS roles and responsibilities. As the agency's primary office for planning and program management, and with the well-recognized deficiency in agency data management and quality, metrics, and processes, perhaps a future goal for PHMSA and OPA to consider is to work toward an integrated

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management system that assimilates all systems and processes into one complete and comprehensive package, including safety management systems (SMS), environmental management systems (EMS), and QMS. This will truly enable the agency to function as a single unit with unified objectives. In the meantime, the agency still has to expand QMS principles outside of just one division within OHMS, operationalize and interlace SMS throughout the agency's safety culture (a goal that has been slow to materialize since it first appeared in PHMSA's strategic plan in the early 2000s), and even begin to conceptualize an EMS framework. Too often, organizations focus on management systems independently, if at all, and compartmentalize each of these platforms, resulting in absent, underdeveloped, or patchy business operations and gross overlap and incongruities.

Following the Boston event, U.S. Senators Ed Markey and Elizabeth Warren requested that the Senate Commerce Committee schedule a hearing on the incident to explore whether regulators have adequate authority and resources to identify and resolve violations and to respond to incidents in a timely manner. Pipeline transportation is one of the safest and most cost-effective ways to transport natural gas and hazardous liquid products. As the scope and complexity of PHMSA's safety mission continue to grow and evolve and the U.S. continues to develop and place more demands on energy transportation, it becomes imperative to invest in upgrading its infrastructure, including aging pipelines, and to evaluate the comprehensiveness and effectiveness of current regulations. The Boston event along with the expanding energy market may also be the impetuses PHMSA needs to reconsider its optimal organizational configuration for the most effective and efficient use of resources that prompts the agency to improve safety, not only for our aging pipelines, but for the entire transportation and infrastructure network. This will allow the agency to unify and modernize processes, technologies, and regulations and to track performance at the program and agency levels, which will ultimately result in corporate efficiencies, a benefit that will undoubtedly extend to safeguarding the public.

ENDNOTES

1. U.S. Department of Transportation Office of Inspector General, *Insufficient Guidance, Oversight, and Coordination Hinder PHMSA's Full Implementation of Mandates and Recommendations* (Washington, D.C., 2016).

2. U.S. Government Accountability Office, *Better Guidance and Planning Could Enhance DOT's Explosives Classification Oversight* (Washington, D.C., 2016).

3. "Quality Management System," Pipeline and Hazardous Materials Safety Administration, accessed September 20, 2018, https://www.phmsa.dot.gov/hazmat-program-management-data-and-statistics/data-operations/quality-management-system.

4. "Regulatory Matters," White House Office of Management and Budget, accessed September 20, 2018, https://www.gpo.gov/fdsys/pkg/FR-2017-03-01/pdf/2017-04107.pdf.

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